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ABSTRACT

Findings of a study that examined the perceptions held by principals about their levels of self-efficacy are presented in this paper. Self-efficacy refers to the belief that one can successfully execute a behavior to achieve a given outcome. Data were collected from a questionnaire that was mailed to 375 principals (125 elementary, middle, and secondary) in the midsouthern and northeastern United States. The questionnaire was designed to measure the relationships among motivation, confidence, and stress to create a perceived level of self-efficacy. High-efficacy principals (those who reported the highest levels of self-efficacy) across all three education levels said that they had minimal additional duty assignments and used fewer sick days. Principals across all three levels with moderate levels of self-efficacy were characterized by a high number of additional duty assignments and a high number of sick/personal days. Low-efficacy principals across all three levels reported that they had lower salaries, higher building populations, a high number of additional duty assignments, and used an extremely high number of sick/personal days. A conclusion is that further research on demographic variables that affect principals' efficacy is needed. Periodic measurements of efficacy are recommended for understanding principal effectiveness in the school environment. Six tables are included. (Contains 16 references.) (LMI)

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DEMOGRAPHIC CHARACTERISTICS ASSOCIATED WITH PERCEIVED SELF EFFICACY LEVELS OF ELEMENTARY, MIDDLE AND SECONDARY PRINCIPALS

by

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ABSTRACT

Self efficacy is usually understood as an individual's ability to be effective or to produce a desired result. It is a characteristic that can be taught through education, through seminars and through adaptation from understanding; it is used throughout life in any field a person chooses. For this reason, personal efficacy should be regarded as having high priority within the educational system.

SELF EFFICACY

In school climates where achievement is encouraged, a sense of efficacy exists which assumes personal responsibility for helping students to learn. Educators in this type of an environment believe that what they do is important and that individual contribution does make a difference in the educational environment and, consequently, in their performance (DeMoulin, 1990).

Self efficacy is a relatively new term, but the idea has been around for a long time. Self efficacy is a mediator of the way one performs and the way one achieves. The self-efficacy concept is based on the belief that one can have success in execution of a behavior to reach a given outcome (Driscoll, 1986). Educators with a strong sense of efficacy establish a positive attitude toward themselves and toward their responsibilities. The literature suggests that such sensations of efficacy differentiate more effective educators from less effective ones (Christensen, 1986; DeMoulin, 1991; Fuller, 1969; Lee, 1983; Spivey, 1976; Steffy, 1988 & Watts, 1983).

Efficacy is thought to be made up of two basic parts: locus of control and efficacy expectation. Locus of control is a belief that a behavior will lead to a given outcome (Greenwood, 1990). The individual must think that the outcome is contingent upon their behavior (Hillman, 1986). The second part of self efficacy is efficacy expectation. Efficacy expectation is one's belief that s/he can successfully perform the operations needed to produce the desired outcome (Greenwood, 1990).

The primary reason for differentiation in locus of control and efficacy expectation is that someone may believe that a given outcome can be produced, but s/he may not think that they are capable of generating the outcome. If the individual does not think they are able to produce a desired outcome, they will not initiate action to produce the outcome or, if they do not take action, the individual will not persist (Gibson, 1984). The self-efficacy theory is simply an individual's personal belief that s/he is able to effectively engage social, cognitive and physical demands that accompany successful task completion (Sachs, 1988).

Many studies have indicated a strong relationship between actual performance and the experimental subject's self efficacy. It is believed that an individual's expectation will influence intensity and coping abilities when confronted with a difficult problem (Sachs, 1988). Some research studies indicate that self efficacy is attained from information gained from four basic sources: accomplishments measured in personal mastery, vicarious experiences, e.g., viewing of models, verbal persuasion and physiological states. All of these sources can be at least partially controlled in the school environment (Driscoll, 1986).

Research on self efficacy further indicates that educators with high personal efficacy are more likely to improve the opportunities for student learning. This may be partially due to efficacious educators' strong pedagogical focus in the educational environment. It has also been found that high efficacy educators are more willing to change procedures in striving for improvements (Gibson, 1984).

EFFICACY AND THE PRINCIPAL

The ultimate goal of any principal is to have a school which works. Schools which have been known to be very effective have the following ingredients: (1) strong instructional leadership by the principal; (2) a safe and orderly atmosphere; (3) high expectations of everyone; (4) emphasis on basic skills instruction; and (5) systematic monitoring and assessment (Zakariya, 1983).

All of these ingredients require the principals to have a strong belief in the things that they are doing and in their ability to successfully complete each task. A principal's attitude usually influences teachers' attitude which in turn may influence students' attitude towards learning.

This attitude is usually referred to as personal efficacy (Driscoll, 1986). In order for a school system to achieve and maintain high efficacy, it is of vital importance that the principal, who is considered to be the instructional leader, has high self efficacy.

Throughout the course of any school year, a principal will confront numerous, difficult situations. Self efficacy, by definition, asserts that the principal must step forward and handle these situations or it will be observed that s/he is lacking some or all of high self efficacy characteristics.

One of the most trying and difficult situations faced by principals is a teacher with low self efficacy. These "at risk" teachers need immediate identification and specialized attention in order to overcome perceived deficiencies in personal contribution. The principal must provide leadership to these teachers in a manner which will increase their self efficacy and maximize the probability that the teacher(s) will succeed (Driscoll, 1986). However, it is virtually impossible for this to happen when the principal personally lacks a high degree of efficacy. This point became the focus of this study.

Methodology

Three hundred and seventy-five principals (125 each elementary, middle and secondary) were randomly selected through the mid-south and northeastern educational service regions. Each principal was asked to complete a 14-point demographics segment derived by the Delphi Technique and the **Career Awareness Index** (CAI). The CAI is a 100 question instrument (alpha coefficient = .92) and contains a three-part analysis. The first part evaluates performance attributes (day-to-day interests and short-range concerns or attention to detail and long-range concerns) and stress attributes (day-to-day [gnat] stressors and hard-core stressors). The second part is a character assessment involving leadership, motivation, work ethics, problem solving, communication, organization and creativity. The third part, the basis for this study, measures the relationship of motivation, confidence and stress and depicts a perceived level of efficacy (DeMoulin, 1990). The efficacy range extends from 0 to +30 (positive self efficacy) and from 0 to -40 (negative self efficacy). The higher the number on the positive end, the higher the perceived self efficacy level. As the number increases on the negative end, the lower the perceived self efficacy.

Of the 325 principals surveyed, 212 returned instruments suitable for analysis. The administrative breakdown included 89 elementary principals, 67 middle school principals and 56 secondary principals. Each returned instrument was analyzed through the **Instrument Summary Assessment Program** (ISAP)* which generated a spread of efficacy levels for each principal division. A computer-generated analysis illustrating the spread of efficacy levels is provided in Table 1.

Insert Table 1 About Here

The mean efficacy level was computed for each level and was subjected to a One-Way Analysis of Variance at a .05 alpha level. Table 2 represent the ANOVA summary table.

Insert Table 2 About Here

Results

Results indicate that a significant difference in efficacy levels is observed among the three levels of principal. Analysis of a Scheffe' Post Hoc procedure (Table 3) indicates a significant difference ($P < .05$) among contrasts 1 and 2 (between elementary principals and middle school principals and between elementary principals and secondary principals). No significance is observed ($P > .05$) in contrast 3 (between efficacy levels of middle school principals and secondary principals). Mean analysis indicates a consistent decline in perceived efficacy from elementary principals to secondary principals. However, this decline is only significant when compared with elementary principalships.

Insert Table 3 About Here

* ISAP is a computer scoring specifically designed to analyze CAI instruments.

Demographic data were included and factor analyzed with orthogonal rotation. Factors were pre-determined to correspond with logical divisions within the CAI efficacy range (7 to 30 = high efficacy; -4 to 6 = moderate efficacy; -5 to -40 low efficacy). Tables 4, 5 and 6 illustrate significant demographic factors in relationship to perceived efficacy levels and principal characterization.

Data from elementary school principals indicate that high efficacy elementary principals (Factor 1) tend to have minimal additional duty assignments and use a minimal number of sick/personal days. Those elementary principals with moderate self efficacy (Factor 2) tend to have a building population that is larger than desired, have a high number of additional-duty assignments and have a high number of sick/personal days used. Those elementary principals with low efficacy (Factor 3) have lower than desired salary, more than desired building population, increased additional-duty assignments and an extremely high number of sick/personal days used.

Data from middle school principals indicate that high efficacy middle school principals (Factor 1) tend to have an increased educational level, have a low number of additional-duty assignments and use a minimal number of sick/personal days. Those middle school principals with moderate efficacy (Factor 2) tend to have lower than desired salaries, higher than desired building population, high additional-duty assignments and high sick/personal day use. Those middle school principals with low efficacy tend to have the lowest salaries, higher than desired building population, longer travel time to and from work, extremely high additional duties and extremely high use of sick/personal days.

Data from secondary school principals indicate that high efficacy secondary principals (Factor 1) have a high educational level, low additional-duty assignments (increased in assistant principals) and use a minimum number of sick/personal days. Those secondary principals with moderate efficacy have longer travel time to and from work, have high additional-duty assignments and have high sick/personal usage. Those secondary principals with low efficacy (Factor 3) tend to be older, have more experience, have lower than desired salaries, have a higher than desired building population, higher than desired additional-duty assignments, have an extremely high sick/personal day usage and live in a city that is perceived too large.

Common significant variables for all three principal levels in Factor 1 include additional-duty assignments and the number of sick/personal days used.

The common significant variable for all three principal levels in Factor 2 include a high number of sick days used. Finally, common variables for all three principal levels in Factor 3 include salary, building population, additional-duty assignment and an extremely high number of sick/personal days used.

Discussion

Increased self efficacy cannot be directly linked to improvements in performance; however, higher levels of self efficacy is thought to lead to greater persistence which in turn leads to increased mastery. Increased achievement will encourage the individual to have more confidence in personal ability to perform a specific behavior in the future in order to successfully complete a task (Gorrell, 1990).

Evidence points to the fact that self efficacy is a learned process, however, it is somewhat situation specific. An educator can demonstrate the characteristics of high efficacy at one point in time and demonstrate "at risk" mannerisms at another point (Hillman, 1986). It is imperative that principals fully understand self efficacy, its impact toward success and effective measurement, evaluation and renewal practices.

This study illustrates the dispersion of efficacy measures in each category of principal. Evidence suggests that certain demographic factors weigh heavily on principal self efficacy. For instance, common significant variables across each factor and within each category of principal were additional-duty assignments and the amount of sick/personal days used. These two variables signify common concerns of elementary, middle and secondary school principals whether high, moderate or low self efficacy was observed.

No significant variables were common to Factor 2 and Factor 3 principals across each category, however, building population was a significant variable for Factor 2 and Factor 3 principals. Educational level was a significant variable in Factor 1 middle and secondary principals. This representation indicated that those middle and secondary principals with high efficacy also had high educational levels. Finally, salary was a common significant variable for each category of Factor 3 principals implying that the elementary, middle and secondary principals with low efficacy also had low salaries.

Conclusion

This study demonstrates the need for further technical research which greatly expands the type and amount of demographic factors that affect efficacy levels of principals. The results of a massive study of elementary, middle and secondary principals could open new light in understanding the impact of efficacy on administrative effectiveness.

In order to ensure a positive climate for education, the principal should be a functional role model and set the standards which have to be met by faculty in a clear and concise manner. Principal efficacy, therefore, must be constantly monitored since efficacy levels tend to fluctuate according to certain extraneous circumstances. Periodic measurements are vital in order to chart efficacy levels and observe any distinctive patterns and/or relationships. It is also important to evaluate the measurement to see that one's belief parallels the individual's ability to bring about positive changes.

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Table 1. Dispersion of Efficacy Levels by Principal Level.

SELF EFFICACY LEVELS (ELEMENTARY)

Self Efficacy Levels

0 to 7	= good	33
8 to 13	= high	20
14 to 30	= ideal	13
-1 to -4	= moderate	16
-5 to -10	= low	4
-11 to -20	= poor	3
-21 to -40	= insufficient	0

N = 89

SELF EFFICACY LEVELS (MIDDLE)

Self Efficacy Levels

0 to 7	= good	23
8 to 13	= high	11
14 to 30	= ideal	4
-1 to -4	= moderate	16
-5 to -10	= low	6
-11 to -20	= poor	5
-21 to -40	= ominous	2

N = 67

SELF EFFICACY LEVELS (SECONDARY)

Self Efficacy Levels

0 to 7	= good	14
8 to 13	= high	7
14 to 30	= ideal	5
-1 to -4	= moderate	12
-5 to -10	= low	8
-11 to -20	= poor	3
-21 to -40	= ominous	7

N = 56

Table 2. ANOVA Summary Table Results.

Principal Level	Mean Efficacy Level	F-Ratio
Elementary	5.393	11.910*
Middle	0.746	
Secondary	-1.464	

N = 212

* P < .05

Table 3. Results of the Scheffe' Post Hoc Test.

Source	Contrast	df	F-Ratio
Contrast 1	1 -1 0	1	10.927*
Contrast 2	1 0 -1	1	21.398*
Contrast 3	0 1 -1	1	1.937

* P < .05

Table 4. Factor Matrix Identifying Particular Demographic Factors of Elementary Principals Associated With Specific CAI and ISAP Efficacy Regions

Demographic Factors	Factor 1 (7 - 30)	Factor 2 (-4 - +6)	Factor 3 (-5 - -40)
Age	.24357	.31579	-.00225
Gender/Race	-.35475	-.00532	-.12694
Experience	.48642	.00543	.13652
Salary	-.22428	-.17481	**.57413**
Education Level	.00498	-.11357	.19440
Class Size	-.25364	-.09430	-.22369
College Major	.00674	.26374	-.03901
Building Size	-.33376	**-.51243**	**-.68344**
Travel Time	.43476	.44379	-.13142
Family Size	-.33669	.23252	.33345
x-tra Duties	**-.58719**	**-.54229**	**-.73612**
Courses Outside Major Area of Emphasis	-.04068	.19902	-.28265
Sick/Personal Days Used	**-.72190**	**-.56849**	**-.62951**
City Population of Residence	.41037	.46401	-.38335

$P < .05$

Table 5. Factor Matrix Identifying Particular Demographic Factors of Middle School Principals Associated With Specific CAI and ISAP Efficacy Regions

Demographic Factors	Factor 1 (7 - 30)	Factor 2 (-4 - +6)	Factor 3 (-5 - -40)
Age	-.12436	.02690	.27751
Gender/Race	.40320	-.11159	-.00621
Experience	-.20205	.44047	-.09152
Salary	-.31369	**-.51916**	**.66831**
Education Level	**.65670**	-.00132	-.42448
Class Size	-.00551	-.01290	-.11154
College Major	.03517	-.22200	.12569
Building Size	.35695	**-.58892**	**-.88933**
Travel Time	.45699	-.28223	**-.56334**
Family Size	.19923	-.13325	-.36388
x-tra Duties	**-.58596**	**-.66655**	**-.79711**
Courses Outside Major Area of Emphasis	.04421	.22777	-.20211
Sick/Personal Days Used	**-.89880**	**-.77782**	**-68988**
City Population of Residence	.41115	-.33441	.02422

P < .05

Table 6. Factor Matrix Identifying Particular Demographic Factors of Secondary School Principals Associated With Specific CAI and ISAP Efficacy Regions

Demographic Factors	Factor 1 (7 - 30)	Factor 2 (-4 - +6)	Factor 3 (-5 - -40)
Age	-.44422	-.33009	**-.77800**
Gender/Race	.44001	-.30039	.25222
Experience	.44441	-.26225	**-.71002**
Salary	.40221	-.19902	**.66695**
Education Level	**.55549**	.31245	.45997
Class Size	-.00233	.12205	.10037
College Major	.01222	.41667	-.48661
Building Size	-.22200	-.32339	**-.71005**
Travel Time	.38800	**-.55570**	.14429
Family Size	.41723	-.10036	.44641
x-tra Duties	**.69909**	**-.78377**	**-.82215**
Courses Outside Major Area of Emphasis	-.03954	-.17112	-.37336
Sick/Personal Days Used	**-.55769**	**-.77801**	**-80012**
City Population of Residence	.22722	.37485	**-.50015**

P < .05